REMARKS

I. Summary

In the office action dated 03/29/05 the abstract of the disclosure is objected to for failure to provide a concise statement of the technical disclosure as required by MPEP §608.01(b). Additionally, the drawings are objected to under 37 C.F.R. 1.83(a); claims 1-19, 24, and 25-31 are rejected under the second paragraph of 35 U.S.C. §112; and claims 1-31 are rejected under 35 U.S.C. § 103(a).

II. Abstract

The abstract stands objected to under MPEP 608.01(b) for not providing a concise statement of the technical disclosure. The abstract has been amended and is now sufficient for one to determine quickly from a cursory inspection the nature and gist of the technical disclosure and, therefore, now complies with MPEP 608.01(b).

III. Drawings

The drawings stand objected to under 37 C.F.R. 1.83(a) for not showing every feature of the invention recited in the claims. Specifically, the heat exchanger and pump must be shown. Figure 1 has been amended to depict the heat exchanger and pump, as described in the corresponding discussion in the specification, which are now labeled **17** and **15** respectively. The specification has also been amended to properly reference the added elements of figure 1. The drawings now contain every feature of the invention and thus comply with 37 C.F.R. 1.83(a).

IV. Rejections under 35 U.S.C. § 112

Claims 1-19, 24, 25-31 stand rejected under 35 U.S.C. § 112, second paragraph, as being vague and indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. Specifically, the heat exchanger and the pump need to be shown on the drawings. As stated in Section III above, the drawings have been modified to include those elements. The claims now particularly point out the subject matter which the applicants regard as their invention and thus comply with 35 U.S.C. § 112.

Claim 14 stands rejected under § 112, second paragraph, as being vague and indefinite because the terminology of the claim lacks of an antecedent basis within the specification. In particular, the heat spreader cannot be positively defined since it is not

defined in the specification. Figure 1 has been amended to depict the heat spreader which is now labeled **68**. The corresponding discussion in the specification has been amended to properly identify heat spreader **68**. Claim 14 now has a proper antecedent basis for heat spreader **68** within the specification and therefore complies with 35 U.S.C. § 112.

V. Rejections under 35 U.S.C. § 103

Claims 1-31 stand rejected under 35 U.S.C. § 103 (a) as being unpatentable over US Patent 5,402,004 issued to Ozmat et al ("Ozmat") in view of US Publication 2003/022732 A1 filed by Dessiatoun et al ("Dessiatoun").

Claim 1 has been amended and now discloses an apparatus comprising a heat source with at least one integrated circuit, a heat exchanger, and

> a thermal management device having a case including a microporous medium and a fluid, to thermally couple the heat source to the heat exchanger.

In support of the proposition that the use of microporous metal foam is obvious, the Examiner first cites column 3, lines 44-49 of Ozmat which teaches a metal "sponge" with an unspecified pore size. The Examiner then asserts that a change in size is generally recognized as being within the level of ordinary skill in the art, and therefore any such change is insufficient to meet the nonobviousness requirement. However, Applicants submit that the use of a microporous medium is nonobvious because Ozmat teaches away from its use.

Paragraph **[0014]** of the present specification teaches that both pressure drops (i.e., flow resistance) and heat transfer capabilities are roughly inversely proportional to pore size. And, therefore, this correlation may need to be recognized and accounted for in the choosing of the porosity of a medium. Embodiments of the present invention recognizing and accounting for this correlation have found that a microporous medium may provide improved heat transfer capabilities while still providing workable flow resistances.

Ozmat, on the other hand, simply provides that a preferred sponge material should offer a low resistance to liquid flow, i.e., it should have large pore diameters. See *Ozmat* column 3, lines 49-53. Thus, Ozmat teaches away from the use of a

microporous medium, as discussed in claim 1, for example, along with its relatively high flow resistances.

Furthermore, Dessiatoun fails to disclose the use of porous materials of any kind and thus fails to cure the deficiency of Ozmat. Therefore, even if a combination of Ozmat and Dessiatoun would have been proper, claim 1 is nonobvious over such a combination because Ozmat teaches away from the use of microporous metal foam. As such, Applicants submit that claim 1 is nonobvious over the prior art and, for at least these reasons, is in proper form for allowance. Claims 2-19 depend on claim 1 incorporating its limitations and should also be in proper form for allowance.

Additionally, claims 20, 21, 23-26, and 28-31 contain limitations identical to the above discussed limitation of claim 1. That is, they recite the use of microporous medium. Therefore these claims are patentable for at least the reasons discussed above.

CONCLUSION

In view of the foregoing, Applicants respectfully submit that the application complies with all formal requirements. Thus, early issuance of Notice of Allowance is respectfully requested.

The Commissioner is hereby authorized to charge shortages or credit overpayments to Deposit Account No. 500393. A Fee Transmittal is enclosed in duplicate for fee processing purposes.

Should there be any lingering questions, Applicant invites the Examiner to call the undersigned to have the questions resolved to allow the subject application to expeditiously pass to issuance.

Respectfully submitted,

Schwabe, Williamson & Wyatt, P.C.

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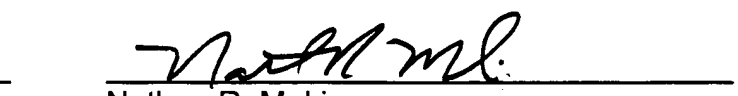

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AMENDMENTS TO THE DRAWINGS

The attached sheet of drawings includes changes to Fig. 1, and replaces the original sheet including Fig. 1. Features discussed in the corresponding specification, but previously omitted in Fig. 1, have been added and labeled **17**, **15**, and **68**.